

We claim:

1. A method of ovulation induction in a female host comprising the administration of a non-polypeptide cAMP level modulator to said host.
2. A method of Claim 1 wherein said cAMP level modulator is a phosphodiesterase inhibitor.
3. A method of Claim 2 wherein said phosphodiesterase inhibitor is an inhibitor of a phosphodiesterase 4 isoform.
4. A method of ovulation induction in a female host comprising the administration of a non-polypeptide cAMP level modulator to said host prior to the luteal phase of the host's ovulatory cycle.
5. A method of Claim 4 wherein said non-polypeptide cAMP level modulator is a phosphodiesterase inhibitor .
6. A method of Claim 5 wherein said phosphodiesterase inhibitor is an inhibitor of a phosphodiesterase 4 isoform .
7. A method of a combined treatment for stimulating follicular development and ovulation induction in a female host comprising the administration of an agent which increases follicle stimulating hormone concentrations in said host during the follicular phase of the host's ovulatory cycle and administering a non-polypeptide cAMP level modulator to said host prior to the luteal phase of the host's ovulatory cycle.
8. A method of Claim 7 wherein said agent is follicle stimulating hormone.
9. A method of Claim 7 wherein said agent is clomiphene.
10. A method of Claim 7 wherein said agent is a selective estrogen receptor modulator.
11. A method of Claim 7 wherein said agent is an aromatase inhibitor.
12. A method of Claim 7 wherein said agent is an inhibitor of related steroidogenic enzymes that results in a decrease in total estrogen production.

13. A method of Claim 7 wherein said non-polypeptide cAMP level modulator is a phosphodiesterase inhibitor .
- 5 14. A method of Claim 13 wherein said phosphodiesterase inhibitor is an inhibitor of a phosphodiesterase 4 isoform .
15. A method of Claim 7 wherein lutenizing hormone is also administered to said host to induce ovulation prior to the luteal phase of the host's ovulatory cycle.
- 10 16. A method of Claim 7 wherein lutenizing hormone is also administered at reduced concentrations compared to existing regimens to said host to induce ovulation prior the luteal phase of the host's ovulatory cycle.
- 15 17. A method of Claim 7 wherein chorionic gonadatropin is also administered to said host to induce ovulation prior the luteal phase of the host's ovulatory cycle.
- 20 18. A method of Claim 7 wherein chorionic gonadatropin is also administered at reduced concentrations compared to existing regimens to said host to induce ovulation prior to the luteal phase of the host's ovulatory cycle.
- 25 19. A method of ovulation induction in a female host comprising the administration of a non-polypeptide cAMP level modulator to said host at the time point of an existing ovulation induction regimen at which hCG or LH is administered to said host.
- 30 20. A method of Claim 20 wherein the non-polypeptide cAMP level modulator is co-administered with hCG or LH.
- 35 21. A method of Claim 20 wherein the non-polypeptide cAMP level modulator is administered alone and not co-administered with hCG or LH.
- 40 22. A non-polypeptide cAMP level modulator for its use as an ovulation induction agent.

23. A non-polypeptide cAMP level modulator for its use in the treatment of an anovulation disorder.

5 24. A pharmaceutical composition containing non-polypeptide cAMP level modulator, for its use in the treatment of an anovulation disorder.

10 25. Use of non-polypeptide cAMP level modulator in a pharmaceutical composition for the treatment of an anovulatory disorder.

26. Use of non-polypeptide cAMP level modulator for the preparation of a medicament to be used in the treatment of an anovulatory disorder.

15 27. A method of collecting oocytes for in vitro fertilization comprising the administration of a non-polypeptide cAMP level modulator.

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